

reaching the posterior margin of the base as they approach the margin of the radula. The last two teeth much broader than long, with rudimentary cusps.

Amphipeplea ampulla, Hutt., var. *globosa*, n. var. Plate XVIII., fig. 12, *a, b, c*.

Shell ovate, inflated, very thin and fragile, pale-horny, faintly shining, transparent, longitudinally plaited, plaits close-set and well marked. Spire short, acute, apex sometimes eroded. Whorls 4, the last inflated. Suture impressed. Aperture large, ovate, occupying about three-quarters of the length of the shell; the outer lip not reflected, thin and sharp; inner lip very broadly reflected, covering the umbilicus. Columella arcuate, with a spiral fold.

Dimensions: Length, 0.5in. (13mm.); breadth, 0.35in. (9mm.). Aperture: Length, 0.39in. (10mm.); breadth, 0.24in. (6mm.). The measures given are those for perfectly adult specimens.

Hab. South Island: Birch Hill Lagoon, Tasman Valley. (H. S.)

The *animal* is the same as in the species, and in the dentition there is not such a difference as to justify the creation of a new species. Professor F. W. Hutton kindly gave me some specimens of his *A. ampulla*, and I have thus been able to compare the radulæ.

The shell differs from *A. ampulla* by the more globular form, the larger size, the lighter colour, and the more considerable fragility and transparency. The spire is, as a rule, somewhat shorter, and the reflexed portion of inner lip broader.

This is a very variable shell, but adult specimens are always much more inflated than any *A. ampulla* I have seen.

[For explanation of Plates XVI.—XVIII., see end of Article X.]

ART. X.—*Miscellaneous Communications on New Zealand Land and Fresh-water Molluscs.*

By H. SUTER.

Communicated by the Secretary.

Read before the Philosophical Institute of Canterbury, 6th November, 1890.

Latia lateralis, Gould (phosphorescent).

When living in Wellington I collected a number of *Latia lateralis* in the Kaiwara Creek, and kept them for some time alive in a glass with water. I was greatly astonished when

at night-time I found all the animals highly phosphorescent. The margin of the mantle showed a violet light, and this was intensified by a touch with a needle. The secreted mucus was also phosphorescent for some time. I do not know of any other fresh-water shell showing this phenomenon, though it is well known in many marine shells, especially in the *Pholadidae*. It is very likely that the cells of Mueller, in connection with the nervous system, produce this light. Having no material at my disposal for the time being, I have to postpone an examination of the animal. It would be of interest to know whether *Latia fluviatilis* shows the same phosphorescent power.

Vitrinopsis (Vitrinoidea) dimidiata, Pf.

This mollusc was first described by Pfeiffer (P.Z.S., 1851) under the name of *Vitriina dimidiata*. There can be but little doubt that Pfeiffer never saw the animal, but only the shell; otherwise this distinguished conchologist would at once have seen that it differs widely from the genus *Vitriina*. Professor F. W. Hutton, when undertaking the revision of our Land Mollusca, for which splendid scientific work conchologists owe him their gratitude, saw the error Pfeiffer had made and created a new genus, *Otoconcha* (Trans. N.Z. Inst., xvi., p. 199) for our mollusc. When I first found this slug in the Forty-mile Bush it really puzzled me, but at last I found that it agrees well with the description of the genus *Vitrinopsis*, Semper (1870), a genus which was not known to Professor Hutton at the time of his revision of our land-shells. *Vitrinopsis* was hitherto only known from the Philippine Islands, where it was discovered by Semper.

I will not enter into fuller particulars at the present, as I expect to get some specimens of *Vitrinopsis* from the Philippine Islands next year, thus enabling me to compare them with our *V. dimidiata* and to give a complete record.

Potamopyrgus corolla, Gould (viviparous). Plate XVIII., fig. 13, *a*, *b*, *c*.

A short time ago I had the chance of making a highly interesting observation on the propagation of the above-named mollusc. I kept a number of specimens alive in a glass tube, and, on examining it, I found to my great astonishment sixteen very minute white young molluscs crawling about on the glass. (This was on the 6th of October, and the animals were put in the glass tube on the 5th.) There was no trace of eggs to be seen, and, as I observed on the following days, when some more young animals appeared, our *P. corolla* is viviparous; and it is to be expected that our other species of the genus, as well as those in Tasmania, will show the same mode of propagation.

The *Hydrobiidæ*, to which our mollusc belongs, are recorded as being oviparous, but *P. corolla* makes an exception to the rule, thus showing a relation to the families of the *Melaniidæ* and *Paludinidæ*, of which *Paludina* is ovo-viviparous. In Switzerland I kept *Paludina fasciata* for a long time in my aquarium, and many times observed the expulsion of the large white eggs from the female animal. They burst a short time afterwards, expelling the young animals in a milky liquid. Such is not the case with our *P. corolla*, but it is strictly viviparous, as the *Melaniidæ* are. The young, one-day-old shell (Pl. XVIII., fig. 13, *a, b, c*) has, of course, quite a different form from that of the adult. It is globular, vitrinous, consisting of one whorl only, which shows some fine growth-lines near the aperture. The greatest diameter is 0.02in. (0.5mm.). The operculum is distinctly visible when the animal is extended out of the shell; it is vitrinous also. The animal, except the liver, is white, showing the black eyes on very short stalks, the rostrum, and the tentacles, which are much shorter and stouter in proportion than in the adult animal.

I hope to be able to continue relative observations on the other species of *Potamopyrgus* next spring.

Psyra godeti, mihi (infested by Trematodes). Plate XVII., fig. 9.

It is a well-known fact that molluscs are sometimes infested by parasites, but up to the present those of the land-molluscs, being of greater scarcity, are not much known. Baudon mentions a sporocyst, *Leucochloridium paradoxum*, as being found in the large tentacles of *Succinea*, which is transformed in different birds, who feed on *Succinea*, into *Distoma macrostoma*. Dujardin has found several species of *Distoma* in the intestines of Helices and Limaces.

When dissecting a specimen of *Psyra godeti*, from Sealy Range, I found in the abdomen about twenty very small trematodes of a whitish colour. A closer examination showed this animal to be a *Distoma* (Pl. XVII., fig. 9) of a lanceolate form, faintly horny under the microscope, with a central cup, about 0.08in. (2mm.) long and 0.02in. (0.5mm.) broad. For want of literature I am unable to say whether it is a new species or not, but I think the fact of a *Distoma* living in a New Zealand *Helix* is now recorded for the first time. Further investigations in this direction might furnish some very interesting results.

In my last paper on "New Species of New Zealand Land and Fresh-water Shells" I proposed the name of *Huttonella* to be given to a group including *Helix leioda*, Hutt., *pseudoleioda*,

wairarapa, *hectori*, *microundulata*, and *aorangi*, mihi (Trans. N.Z. Inst., xxii., p. 224). Since writing that I see that Pfeiffer has already (1855) given the name of *Huttonella* to a group of the genus *Ennea*, H. and A. Adams; I therefore withdraw it, proposing the name *Maoriana* instead, this group being endemic to New Zealand.

EXPLANATIONS OF PLATES XVI.—XVIII.

PLATE XVI.

- Fig. 1. *a, b. Rhytida meesoni*, mihi.
 " A. " " " teeth, $\times 120$.
 Fig. 2. *a, b. Patula mutabilis*, mihi.
 " B. " " " jaw.
 " C. " " " teeth, $\times 720$.
 Fig. 3. *a, b. " sterkiiana*, mihi.
 " D. " " " jaw.
 " E. " " " teeth, $\times 480$.
 Fig. 4. *a, b. " browni*, mihi.
 " F. " " " jaw.
 " G. " " " teeth, $\times 720$.
 Fig. 5. *a, b. " serpentinula*, mihi.
 " H. " " " jaw.
 " J. " " " teeth, $\times 720$.

PLATE XVII.

- Fig. 6. *a, b. Patula cremita*, mihi.
 " K. " *bianca*, Hutt., v. *montana*, mihi, jaw.
 " L. " " " " teeth, $\times 720$.
 Fig. 7. *a, b. Pitya cryptobidens*, mihi.
 " c. " " " aperture with lamellæ.
 " M. " " " jaw.
 " N. " " " teeth, $\times 720$.
 Fig. 8. *a, b. Psyra godeti*, mihi.
 Fig. 9. *Distoma*, found in *Psyra godeti*.
 " O. *Psyra godeti*, mihi, jaw.
 " P. " " " teeth, $\times 480$.

PLATE XVIII.

- Fig. 10. *a, b. Amphidoxa feredayi*, mihi.
 " Q. " " " jaw.
 " R. " " " teeth, $\times 480$.
 Fig. 11. *a, b. Phriagnathus acanthinulopsis*, mihi.
 " S. " " " part of jaw.
 " T. " " " teeth, $\times 480$.
 Fig. 12. *a, b, c. Amphipeplea ampulla*, Hutt., v. *globosa*, mihi.
 Fig. 13. *a, b, c. Potamopyrgus corolla*, Gould. One day old.